MITSUBISHI
GRAPHIC OPERATION TERMINALS
MELSEC-GOT

Changes for the Better

GOT-F900

F940GOT Series(F94*GOT-*WD-E)

Installation Manual

JY992D94201C

This manual contains text, diagrams and explanations which will guide the reader in the correct installation, safe use and operation of the F94*GOT-*WD-E and should be read and understood before attempting to install or use the unit. Further information can be found in the associated manuals list below.

Specifications are subject to change without notice

Guidelines for the Safety of the User and Protection of the F94*GOT-*WD-E

This manual has been written to be used by trained and competent personnel. The definition of such a person or persons is as follows:

a) Any engineer using the product associated with this manual, should be of a competent nature, trained and qualified to the local and national standards. These engineers should be fully aware of all aspects of safety with regards to automated equipment.

b) Any commissioning or service engineer must be of a competent nature, trained and qualified to the local and national standards.

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Note's on the Symbols Used in this Manual

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1) Indicates that the identified danger **WILL** cause physical and property damage.

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- Under no circumstances will Mitsubishi Electric be liable or responsible for any consequential damage that may arise as a result of the installation or use of this equipment.
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- Owing to the very great variety in possible application of this equipment, you must satisfy yourself as to its suitability for your specific application.

Associated Manuals

	Manual Name	Manual Number	Description
⊙	GOT-F900 Series Operation Manual	JY992D94701	This manual contains explanations for the operation and use of the GOT-F900 series graphic operation terminals.
⊙	GOT-F900 Series Hardware Manual (connection diagram)	JY992D94801	This manual contains explanations for the wiring and installation, etc. of the GOT-F900 series graphic operation terminals.
O	FX-PCS-DU/WIN-E SOFTWARE MANUAL	JY992D68301	This manual contains explanations for the operation of FX-PCS-DU/WIN-E screen design software.
O	SW*D5C-GOTR-PACKE Operating Manual	-	This manual contains explanations for the operation of GT-Designer (SW*D5C-GOTR-PACKE) screen design software.
□	F9GT-40UMB Manual	JY992D74101	This manual contains explanations for installation and operating procedure of F9GT-40UMB data transfer adapter

⊙ Indispensable manual

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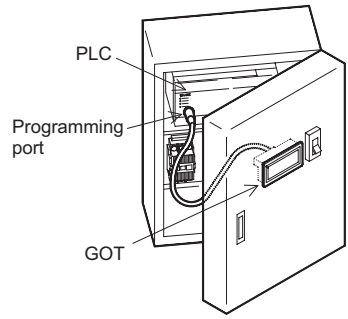
Refer to the manual of the connected programmable controller for details concerning that unit.

1. Introduction

The F940GOT-*WD-E (hereafter called “GOT” or “F940GOT”) is to be mounted on the face of a control panel or operations panel, and connected to the programming port (CPU port) or the communication port (communication units port) of a PLC.
Various devices can be monitored and PLC data changed through the screens in the GOT. Several display screens are built-in to the GOT, and additional personalized screens can be created by the user.



1) The GOT can connect to MELSEC FX, A, QnA and Q PLCs as well as a host of third party manufactured units. Further information can be found in GOT-F900 Series Hardware Manual.
2) Through the GOT, PLC user programs can be downloaded, uploaded and monitored in programming software GX-Developer or FX-PCS/WIN-E on a personal computer. Further information can be found in GOT-F900 Series Operation Manual.
3) Display screens are created using the following software.

Software Name	Version
GT Designer	Screen design software for Windows SW1D5C-GOTR-PACKE Version V 00A or more
FX-PCS-DU/WIN-E	Screen design software for Windows SW0PC-FXDU/WIN-E Version V2.00 or more

1.1 Product Lists

Production Name	Description
F940GOT-SWD-E	Graphic operation terminal main unit: SWD: 8 colors LWD: White and black
F940GOT-LWD-E	
FX-50DU-CAB0	Communication cable (GOT ↔ CPU port in FX_0, FX_{0S}, FX_{1S}, FX_{0N}, FX_{1N}, FX_{2N} or FX_{2NC} series PLC) The connector on the GOT side is straight. Cable length is 3m (9' 10").
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QC30R2	Communication cable (GOT ↔ CPU port in Q series PLC) The connector on the GOT side is straight. Cable length is 3m (9' 10").
FX-232CAB-1	Data exchange cable (GOT ↔ Personal computer <9-pin D-sub>)
PM-20BL	Battery for keeping Alarm history, sampling and current time data
F9GT-40PSC	Transparent protection sheet for F940GOT (5 pieces)
F9GT-40LTS	Backlight for F940GOT
F9GT-40UMB	Data transfer adapter
F9GT-40FMB	Data transfer adapter (Flash memory built in)

Caution

During abnormal communication (including cable break) when monitor is executed within the GOT, communication between the GOT and programmable controller CPU is interrupted and it is impossible to operate switches or devices in the PLC through the GOT.
Communication and operation resumes when the GOT system is correctly configured.
DO NOT configure emergency stop or safety features to operate through the GOT, and be sure that there is no adverse consequences in the event of a GOT - PLC communications malfunction.

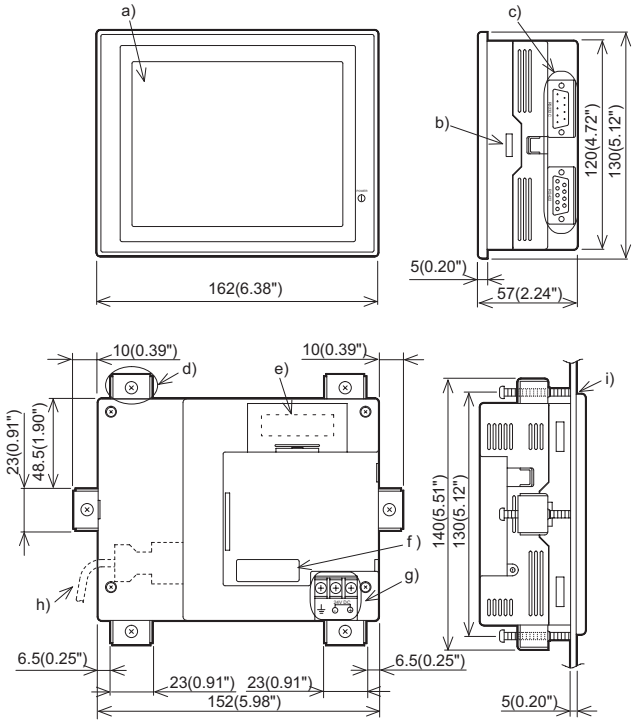
Note;

- Do not lay signal cables near high voltage power cables or allow them to share the same trunking duct.
  Otherwise effects of noise or surge induction are likely to take please. Keep a safe distance of more than 100 mm from these wires.
- Operate touch switches on the display screen by hand.
  DO NOT use excessive force, or attempt operate them with hard or pointed objects.
  The tip of a screw driver, pen or similar object for example may break the screen.

1.2 Dimensions and Each Part Name

Dimensions: mm (inches) MASS (Weight): 1 kg (2.2 lbs)

Accessory: Mounting brackets, Tightening bolt (M3, 6 bolts),
Packing seal for dust and water resistance



a) Display

b) Mounting bracket hole

c) Communication ports

Port	Description
RS-422*	RS-422 Port for connecting PLC (including1:N connection) or communication (computer link) unit <9-pin D-sub>
RS232C	RS-232C port for connecting personal computer, printer, bar-code reader or 1:N connection <9-pin D-sub>

* RS-422 for F940GOT-☐WD, RS-232C for F943GOT-☐WD

d) Mounting bracket and tightening bolt

e) PM-20BL battery

f) Expansion interface

g) DC power supply terminal (M3)

h) Communication cable

i) Packing seal

2. Specifications

2.1 General Specifications

Item	Specifications
Operating Temperature	0 ~ 50 °C (32 ~ 122 °F) [With expansion module: 0 ~ 40 °C (32 ~ 104 °F)]
Storage Temperature	-20 ~ 60 °C (-4 ~ 140 °F)
Humidity	35 ~ 85% Relative Humidity, No condensation
Vibration Resistance - intermittent vibration	Conforms to IEC 1131-2; 10 ~ 57 Hz: 0.075 mm Half Amplitude 57 ~ 150 Hz: 9.8 m/s^2 Acceleration Sweep Count for X, Y, Z: 10 times (80 min. in each direction)
Vibration Resistance - Continuous vibration	Conforms to IEC 1131-2; 10 ~ 57 Hz: 0.035 mm Half Amplitude 57 ~ 150 Hz: 4.9 m/s^2 Acceleration Sweep Count for X, Y, Z: 10 times (80 min in each direction)
Shock Resistance	Conforms to IEC 1131-2: 147m/s^2 Acceleration, 3 times in each direction X, Y, and Z
Noise Immunity	1000 Vp-p, 1micro second, 30 ~ 100 Hz, tested by noise simulator
Dielectric Withstand Voltage	500 V AC > 1 min, tested between power terminals and ground
Insulation Resistance	5 MΩ > at 500 V DC, tested between power terminals and ground
Ground	Grounding registance 100 Ω or less. (class D)
Protection	IP 65F

2.2 Power Supply Specifications

Items	F94*GOT-SWD-E	F94*GOT-LWD-E
Power Supply Voltage	24V DC, +10% -15%	
Power Supply Ripple	200 mV or less	
Current Consumption	Ratings: 410 mA at 24V DC	Ratings: 390 mA at 24V DC
	180 mA at 24 V DC when backlight is turned OFF	
Fuse	Fuse built-in GOT (impossible to change)	
Max. Allowable Momentary Power Supply Failure period	5 ms; If less than 5 ms, the GOT will continue operation. If 5 ms or more, the GOT will shut down.	
Battery	Built-in, PM-20BL type lithium battery. (Approximately 5 years life) Guaranteed term is 1 year.	

2.3 Screen Hardware Specifications

Items		F94*GOT-SWD-E	F94*GOT-LWD-E
Display Device		STN color liquid crystal	
Resolution		320 × 240 (dot), 40 characters × 15 lines	
Dot Pitch		0.36 mm (0.014") Horizontal × 0.36 mm (0.014") Vertical.	
Effective Display Size		115 mm (4.53") × 86 mm (3.39"); 6 (5.7 inch) type	
Number of Colors		8 colors	White and Black
Life of liquid crystal		Approximately 50,000 hours (Operating temperature: 25 °C / 77°F) Guaranteed term is 1 year.	
Backlight		Cold cathode tube	
Life of Backlight		40,000 hours or more (Operating temperature: 25 °C / 77°F) Guaranteed term is 1 year.	
Touch Keys		Maximum 50 touch keys / screen, 20 × 12 matrix	
Interface	RS-422*	Conforming to RS-422	
	RS-232C	Conforming to RS-232C	
Number of Screens		User screen: 500 screens or less System screen: Allocated screens No. 1001-1030.	
User Memory		Flash memory 512 KB (built-in)	

* RS-422 for F940GOT-☐WD, RS-232C for F943GOT-☐WD

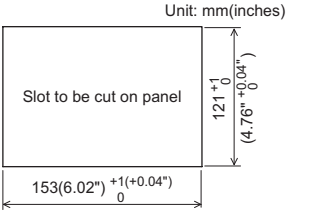
3. Installation

Note;

- Do not mount the GOT in an environment that contains dust, soot corrosive or conducive dust, corrosive or flammable gas, or expose the unit to high temperatures, dew condensation, rain and wind or impact and vibration.
  If the GOT is used in such a place, electrical shock, fire, malfunction, damages or deterioration may be caused.
- Never drop cutting chips or electric wire chips into the ventilation window of the GOT when drilling screw holes or performing wiring. Such chips may cause fire, failure or malfunction.
- Make sure that the power is turned off, before securely connecting any cables. Poor connection may cause malfunction.

The GOT is designed to be mounted in a panel. Install it using the following procedure.

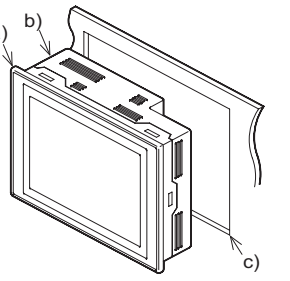
1) Preparing the panel surface.
   On the panel surface, cut a rectangular mounting slot of the dimensions shown on the right.
   At this time, space of 10 mm is required at each of the top and the bottom of the slot, inside the panel for metal fixtures as shown in “4) Dimensions required inside the panel for installation”.



Note

Make sure that the thickness of the panel surface is no more than 5 mm (0.20").

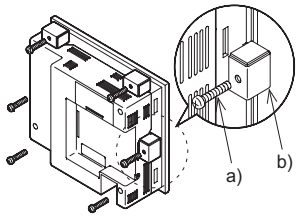
2) Inserting the GOT into the panel surface
   Attach the packing seal to the GOT, and insert the GOT from the front face of the panel surface.
   a) Packing seal
   b) GOT
   c) Mounting slot



3) Fixing the GOT
Put hooks of the mounting brackets (supplied) in to the mounting holes in the GOT. Tighten mounting bolts (also supplied) until the GOT is securely fixed.
Fix mounting bolts in all four positions, above and below the GOT.

a) Clamping bolt

b) Mounting bracket



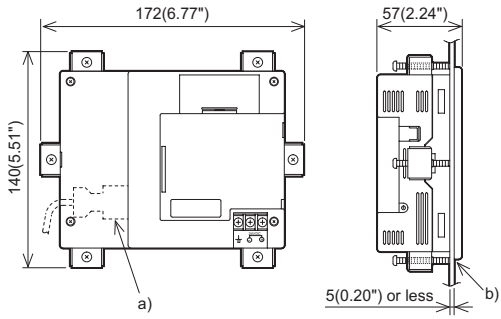
Note:

Make sure to tighten the clamping bolts with a torque of 0.3 ~ 0.5 N•m.

4) Dimensions required inside the panel for installation.
When installing the GOT, make sure that the inside dimensions shown on the right are available.

a) PLC connection cable

b) Packing seal



4. Wiring for Power Supply

Caution:

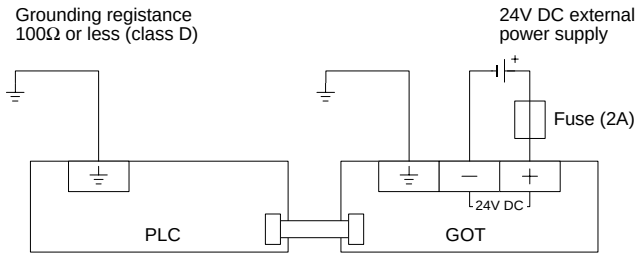
Cut OFF all phases of power source externally, before installation or wiring work in order to avoid electric shock or damage to the product.

Note:

- When wiring the power supply, use electric wires of 0.75 mm^2 or more so that voltage drop will not occur. For crimp-style terminals, use M3 size. Securely tighten crimp-style terminals with a torque of 0.5 ~ 0.8 N•m so that errors will not occur.
- Insure correct termination of DC power source, incorrect connection may result in unit failure or the GOT being burnt.
- Attach a fuse of 2 A to the 24V DC power supply.
- Perform Class D (100Ω or less) grounding with an electric wire of at least 1.25 mm^2. Never perform common grounding of the GOT and a strong power system.

Note

- Feed power to the GOT by an external power supply.
(The service power supply of the programmable controller cannot be used.)
- Even if instantaneous power interruption of less than 5 ms occurs, the GOT continues its operation. When power interruption for considerable period of time or voltage drop occurs, the GOT stops its operation. However, when the power supply is recovered, the GOT automatically restarts its operation. (The screen displayed just after recovery is determined by the working environment originally set.)



5. Expansion Module

a) F9GT-40UMB
The data transfer adaptor F9GT-40UMB is used to store the user screen data stored in the EPROM for user screen data FX-EPROM-4M to the flush memory in the GOT. (The user screen data can be written to the EPROM using the screen design software.)
This adaptor is useful when a same screen is transferred to two or more GOT units.
For operating procedure of F9GT-40UMB, please see manual of F9GT-40UMB.

b) F9GT-40FMB
F9GT-40FMB has a built-in flash memory and can transfer screen data when installed in the GOT. (When installed in the OS earlier than version 6.40, screen display is not available while transferring data from F9GT-40FMB to the GOT.)
For the use methods and specifications, refer to the manual for F9GT-40FMB.

6. Maintenance

Cautions:

- Correctly connect the battery for memory backup. Never charge, disassemble, heat, burn or short-circuit the battery. If the battery is handled in such a way, bursting or fire may be caused.
- Always power OFF and remove the GOT from the panel before starting replacement of the backlight and battery. If this is not the case, the backlight may be dropped and cause injury, or electrical shock may be sustained.
- Never disassemble or modify the GOT. Disassembly or modification may cause failure, malfunction or fire. For repair, please, contact a service representative.

Note:

Make sure to turn OFF the power, before connecting/disconnecting cables.
If you connect/disconnect cables while the power is turned on, failure or malfunction may be caused.

When repairing liquid crystal screen, please, contact a service representative.

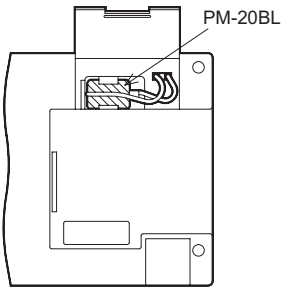
6.1 Replacement of Battery

When the battery voltage drops, a control device (system information) set by the screen design software turns ON. The control device interlocks with an auxiliary relay in the PLC. It is recommended to provide a lamp while utilizing the output of the PLC so that voltage drop can be monitored outside the GOT.
For details of control devices, refer to the GOT-F900 Series Operation Manual.

Note:

For approximately one month after the control device for battery voltage drop turns ON, the battery backs up the alarm history, sampling and the current time. When the control device (system information) turns ON, replace the battery (PM-20BL) soon.
The screen data is stored in the flash memory. Even if the battery is totally worn out, the screen data remains stored

6.1.1 Replacement Procedure



1) Turn off the power to the GOT and remove the battery holder cover.
2) Remove the existing battery from the battery holder, and disconnect.
3) Within 30 seconds, connect a new battery.
4) Insert the new battery into the battery holder, and attach the cover.

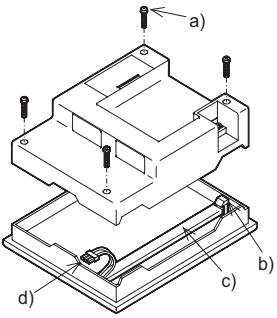
6.2 Replacement of backlight

Replace the backlight F9GT-40LTS using the following procedure.

Note: Removing Rear Panel

If the rear panel is pulled with an excessive force, the cable connecting the rear panel and the front panel may be disconnected or the PCB may be damaged. Be careful.

6.2.1 Replacement procedure



1) Make sure that the power of the GOT is turned OFF. Remove the mounting screws (a) located at 4 corners, and slowly remove the rear panel.
2) Disconnect the backlight connector (b).
3) Remove the backlight F9GT-40LTS (c) from the backlight fixing holder (d).
   It is recommended to insert a screwdriver into the holder. Then, the backlight can be taken out easily.
4) Attach a new backlight F9GT-40LTS (c). Put it into the GOT by performing the steps 1) ~ 3) in the reverse order.

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Manual revision : C
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MITSUBISHI ELECTRIC CORPORATION
HEAD OFFICE : MITSUBISHI DENKI BLDG MARUNOUTI TOKYO 100-8310 TELEX : J24532 CABLE MELCO TOKYO
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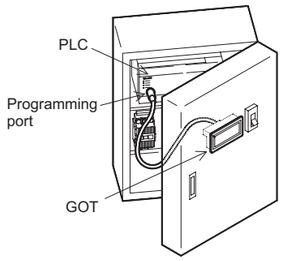

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DO NOT configure emergency stop or safety features to operate through the GOT, and be sure that there is no adverse consequences in the event of a GOT - PLC communications malfunction.

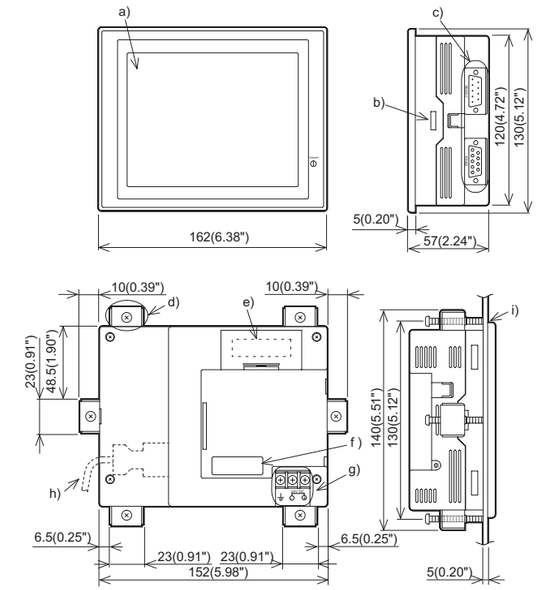
Note;

- Do not lay signal cables near high voltage power cables or allow them to share the same trunking duct.
  Otherwise effects of noise or surge induction are likely to take please. Keep a safe distance of more than 100 mm from these wires.
- Operate touch switches on the display screen by hand.
  DO NOT use excessive force, or attempt operate them with hard or pointed objects.
  The tip of a screw driver, pen or similar object for example may break the screen.

1.2 Dimensions and Each Part Name

Dimensions: mm (inches) MASS (Weight): 1 kg (2.2 lbs)

Accessory: Mounting brackets, Tightening bolt (M3, 6 bolts),
Packing seal for dust and water resistance



a) Display

b) Mounting bracket hole

c) Communication ports

Port	Description
RS-422*	RS-422 Port for connecting PLC (including1:N connection) or communication (computer link) unit <9-pin D-sub>
RS232C	RS-232C port for connecting personal computer, printer, bar-code reader or 1:N connection <9-pin D-sub>

* RS-422 for F940GOT-□WD, RS-232C for F943GOT-□WD

d) Mounting bracket and tightening bolt

e) PM-20BL battery

f) Expansion interface

g) DC power supply terminal (M3)

h) Communication cable

i) Packing seal

2. Specifications

2.1 General Specifications

Item	Specifications
Operating Temperature	0 ~ 50 °C (32 ~ 122 °F) [With expansion module: 0 ~ 40 °C (32 ~ 104 °F)]
Storage Temperature	-20 ~ 60 °C (-4 ~ 140 °F)
Humidity	35 ~ 85% Relative Humidity, No condensation
Vibration Resistance - intermittent vibration	Conforms to IEC 1131-2; 10 ~ 57 Hz: 0.075 mm Half Amplitude 57 ~ 150 Hz: 9.8 m/s^2 Acceleration Sweep Count for X, Y, Z: 10 times (80 min. in each direction)
Vibration Resistance - Continuous vibration	Conforms to IEC 1131-2; 10 ~ 57 Hz: 0.035 mm Half Amplitude 57 ~ 150 Hz: 4.9 m/s^2 Acceleration Sweep Count for X, Y, Z: 10 times (80 min in each direction)
Shock Resistance	Conforms to IEC 1131-2: 147m/s^2 Acceleration, 3 times in each direction X, Y, and Z
Noise Immunity	1000 Vp-p, 1micro second, 30 ~ 100 Hz, tested by noise simulator
Dielectric Withstand Voltage	500 V AC > 1 min, tested between power terminals and ground
Insulation Resistance	5 MΩ > at 500 V DC, tested between power terminals and ground
Ground	Grounding registance 100 Ω or less. (class D)
Protection	IP 65F

2.2 Power Supply Specifications

Items	F94*GOT-SWD-E	F94*GOT-LWD-E
Power Supply Voltage	24V DC, +10% -15%	
Power Supply Ripple	200 mV or less	
Current Consumption	Ratings: 410 mA at 24V DC	Ratings: 390 mA at 24V DC
	180 mA at 24 V DC when backlight is turned OFF	
Fuse	Fuse built-in GOT (impossible to change)	
Max. Allowable Momentary Power Supply Failure period	5 ms; If less than 5 ms, the GOT will continue operation. If 5 ms or more, the GOT will shut down.	
Battery	Built-in, PM-20BL type lithium battery. (Approximately 5 years life) Guaranteed term is 1 year.	

2.3 Screen Hardware Specifications

Items		F94*GOT-SWD-E	F94*GOT-LWD-E
Display Device		STN color liquid crystal	
Resolution		320 × 240 (dot), 40 characters × 15 lines	
Dot Pitch		0.36 mm (0.014") Horizontal × 0.36 mm (0.014") Vertical.	
Effective Display Size		115 mm (4.53") × 86 mm (3.39"); 6 (5.7 inch) type	
Number of Colors		8 colors	White and Black
Life of liquid crystal		Approximately 50,000 hours (Operating temperature: 25 °C / 77°F) Guaranteed term is 1 year.	
Backlight		Cold cathode tube	
Life of Backlight		40,000 hours or more (Operating temperature: 25 °C / 77°F) Guaranteed term is 1 year.	
Touch Keys		Maximum 50 touch keys / screen, 20 × 12 matrix	
Interface	RS-422*	Conforming to RS-422	
	RS-232C	Conforming to RS-232C	
Number of Screens		User screen: 500 screens or less System screen: Allocated screens No. 1001-1030.	
User Memory		Flash memory 512 KB (built-in)	

* RS-422 for F940GOT-☐WD, RS-232C for F943GOT-☐WD

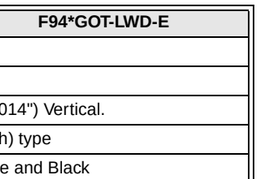
3. Installation

Note;

- Do not mount the GOT in an environment that contains dust, soot corrosive or conducive dust, corrosive or flammable gas, or expose the unit to high temperatures, dew condensation, rain and wind or impact and vibration.
  If the GOT is used in such a place, electrical shock, fire, malfunction, damages or deterioration may be caused.
- Never drop cutting chips or electric wire chips into the ventilation window of the GOT when drilling screw holes or performing wiring. Such chips may cause fire, failure or malfunction.
- Make sure that the power is turned off, before securely connecting any cables. Poor connection may cause malfunction.

The GOT is designed to be mounted in a panel. Install it using the following procedure.

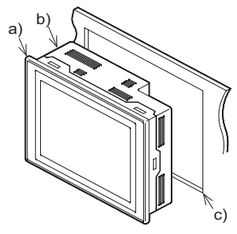
1) Preparing the panel surface.
   On the panel surface, cut a rectangular mounting slot of the dimensions shown on the right.
   At this time, space of 10 mm is required at each of the top and the bottom of the slot, inside the panel for metal fixtures as shown in “4) Dimensions required inside the panel for installation”.



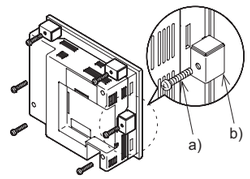
Note

Make sure that the thickness of the panel surface is no more than 5 mm (0.20").

2) Inserting the GOT into the panel surface
   Attach the packing seal to the GOT, and insert the GOT from the front face of the panel surface.
   a) Packing seal
   b) GOT
   c) Mounting slot



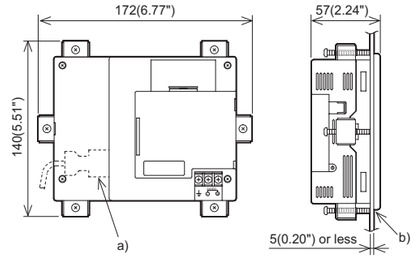
3) Fixing the GOT
   Put hooks of the mounting brackets (supplied) in to the mounting holes in the GOT. Tighten mounting bolts (also supplied) until the GOT is securely fixed.
   Fix mounting bolts in all four positions, above and below the GOT.
   a) Clamping bolt
   b) Mounting bracket



Note:

Make sure to tighten the clamping bolts with a torque of 0.3 ~ 0.5 N•m.

4) Dimensions required inside the panel for installation.
   When installing the GOT, make sure that the inside dimensions shown on the right are available.
   a) PLC connection cable
   b) Packing seal



4. Wiring for Power Supply

Caution:

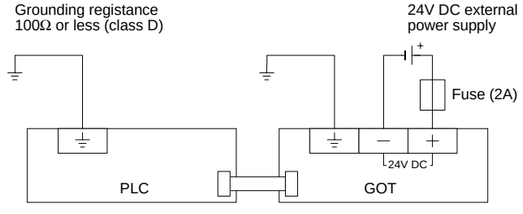
Cut OFF all phases of power source externally, before installation or wiring work in order to avoid electric shock or damage to the product.

Note:

- When wiring the power supply, use electric wires of 0.75 mm^2 or more so that voltage drop will not occur. For crimp-style terminals, use M3 size. Securely tighten crimp-style terminals with a torque of 0.5 ~ 0.8 N•m so that errors will not occur.
- Insure correct termination of DC power source, incorrect connection may result in unit failure or the GOT being burnt.
- Attach a fuse of 2 A to the 24V DC power supply.
- Perform Class D (100Ω or less) grounding with an electric wire of at least 1.25 mm^2. Never perform common grounding of the GOT and a strong power system.

Note

- Feed power to the GOT by an external power supply.
  (The service power supply of the programmable controller cannot be used.)
- Even if instantaneous power interruption of less than 5 ms occurs, the GOT continues its operation. When power interruption for considerable period of time or voltage drop occurs, the GOT stops its operation. However, when the power supply is recovered, the GOT automatically restarts its operation. (The screen displayed just after recovery is determined by the working environment originally set.)



5. Expansion Module

a) F9GT-40UMB
   The data transfer adaptor F9GT-40UMB is used to store the user screen data stored in the EPROM for user screen data FX-EPROM-4M to the flush memory in the GOT. (The user screen data can be written to the EPROM using the screen design software.)
   This adaptor is useful when a same screen is transferred to two or more GOT units.
   For operating procedure of F9GT-40UMB, please see manual of F9GT-40UMB.

b) F9GT-40FMB
   F9GT-40FMB has a built-in flash memory and can transfer screen data when installed in the GOT. (When installed in the OS earlier than version 6.40, screen display is not available while transferring data from F9GT-40FMB to the GOT.)
   For the use methods and specifications, refer to the manual for F9GT-40FMB.

6. Maintenance

Cautions:

- Correctly connect the battery for memory backup. Never charge, disassemble, heat, burn or short-circuit the battery. If the battery is handled in such a way, bursting or fire may be caused.
- Always power OFF and remove the GOT from the panel before starting replacement of the backlight and battery. If this is not the case, the backlight may be dropped and cause injury, or electrical shock may be sustained.
- Never disassemble or modify the GOT. Disassembly or modification may cause failure, malfunction or fire. For repair, please, contact a service representative.

Note:

Make sure to turn OFF the power, before connecting/disconnecting cables.
If you connect/disconnect cables while the power is turned on, failure or malfunction may be caused.

When repairing liquid crystal screen, please, contact a service representative.

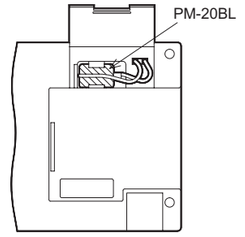
6.1 Replacement of Battery

When the battery voltage drops, a control device (system information) set by the screen design software turns ON. The control device interlocks with an auxiliary relay in the PLC. It is recommended to provide a lamp while utilizing the output of the PLC so that voltage drop can be monitored outside the GOT.
For details of control devices, refer to the GOT-F900 Series Operation Manual.

Note:

For approximately one month after the control device for battery voltage drop turns ON, the battery backs up the alarm history, sampling and the current time. When the control device (system information) turns ON, replace the battery (PM-20BL) soon.
The screen data is stored in the flash memory. Even if the battery is totally worn out, the screen data remains stored

6.1.1 Replacement Procedure



1) Turn off the power to the GOT and remove the battery holder cover.
2) Remove the existing battery from the battery holder, and disconnect.
3) Within 30 seconds, connect a new battery.
4) Insert the new battery into the battery holder, and attach the cover.

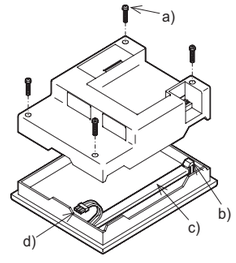
6.2 Replacement of backlight

Replace the backlight F9GT-40LTS using the following procedure.

Note: Removing Rear Panel

If the rear panel is pulled with an excessive force, the cable connecting the rear panel and the front panel may be disconnected or the PCB may be damaged. Be careful.

6.2.1 Replacement procedure



1) Make sure that the power of the GOT is turned OFF. Remove the mounting screws (a) located at 4 corners, and slowly remove the rear panel.
2) Disconnect the backlight connector (b).
3) Remove the backlight F9GT-40LTS (c) from the backlight fixing holder (d).
   It is recommended to insert a screwdriver into the holder. Then, the backlight can be taken out easily.
4) Attach a new backlight F9GT-40LTS (c). Put it into the GOT by performing the steps 1) ~ 3) in the reverse order.

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